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Print advertising media substitution

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Print Advertising Media Substitution

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A Research Monograph of the
Printing Industry Center at RIT

No. PICRM-2008-07

R·I·T



Printing Industry Center

An Alfred P. Sloan Foundation Center

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Table of Contents

| | |
|---|----|
| Abstract | 3 |
| Introduction | 3 |
| Advertising Media—The Changing Landscape..... | 4 |
| Radio | 4 |
| Television | 5 |
| Newspaper | 6 |
| Magazine | 6 |
| Outdoor..... | 6 |
| Internet..... | 7 |
| Methodology..... | 8 |
| Data Gathering..... | 8 |
| Accounting for Inflation | 8 |
| Data Analysis..... | 8 |
| Unmeasured Media | 9 |
| Results | 10 |
| Distribution of Advertising Spending by Medium..... | 10 |
| Differences in Media Mix by Industry | 12 |
| Internet Advertising Growth..... | 14 |
| Discussion | 15 |
| References..... | 17 |

Abstract

This quantitative study examined changes to the advertising media mix of leading national advertisers from 2003 and 2005. The advertising channels analyzed were newspaper, magazine, television, outdoor, radio, Internet, and Yellow Pages. Of these seven categories, there was statistically significant growth in radio and Internet advertising, and a statistically significant decrease in traditional Yellow Pages advertising. Differences in advertising spending were found by industry.

Introduction

Where it was once standard to put the majority of their advertising efforts into television and newspaper, corporations have re-evaluated the distribution of their advertising budgets. As new types of communication media continue to evolve, leading national advertisers will need to change with the evolution of new media. One medium that has played a major role in this advertising transition is the Internet.

The Internet has become a powerful medium for advertising over the past decade. In the post-9/11 economy, top companies have larger advertising budgets than ever before. Some of these companies are still focusing the majority of their budgets toward television advertising, while others have decided to dedicate more funds to newer advertising paths, such as the Internet. This research examined the distribution of advertising spending for the one hundred leading national advertisers from 2003 and 2005 in order to analyze changes in media strategies.

The research focused on three main objectives:

1. Were there significant changes to the distribution of advertising spending by medium between 2003 and 2005?
2. Are there differences in media mix by industry of the advertiser?
3. Has Internet advertising grown at the expense of other media?

Advertising Media—The Changing Landscape

Advertisers have many different forms of media to choose from when distributing a message, and they ultimately try to select the media that deliver the most “bang for the buck.” Table 1 presents the 2004 advertising expenditures as reported by one communications industry forecast (Veronis, Suhler, & Stevenson, 2004).

Table 1. Measured media ad expenditure - 2004

| Media | Percent Contribution | Size | CAGR (projected 04-09) |
|---------------------------------|----------------------|-----------|------------------------|
| TV Broadcast and Cable | 33% | \$62.1 B | 4.3 / 12% |
| Newspapers (daily/weekly) | 27% | \$52.1 B | 2.5 / 5.6% |
| Magazines (consumer & business) | 13% | \$24.2 B | 6.2 / 3.3% |
| Radio | 11% | \$20.3 B | 6.2% |
| Yellow Pages (print) | 8% | \$15.2 B | 3% |
| Internet | 5% | \$9.6 B | 24% |
| Out of Home | 3% | \$5.8 B | 5.5% |
| Total | -- | \$189.3 B | -- |

Many top advertisers have realized that their messages are best received when they are distributed over multiple channels (Lewis, 2006). A few of those channels are radio, television, newspaper, magazine, outdoor signage, and the Internet – all of which have their own unique benefits. Each channel is facing new challenges, which are described below.

Radio

Radio advertising spending in 2004 made up 11% of total advertising spending, accounting for \$20.3 billion (Veronis et al., 2004). The most important advantage of radio advertising is that it is highly targeted. It also has the shortest “closing period,” allowing change right up until the minute that it airs. This offers the great advantage of not appearing dated or redundant. Disadvantages of radio advertising include a lack of visuals and a lack of attentive listeners, because the medium is generally used as a “pleasant background” (Wells, Burnett, & Moriarty, 1995).

Noting a recent significant investment to HD radio, Gary Graff (Graff, Yorke, & Al, 2006) wrote that “the HD Radio Alliance committed more than \$200 million to promote more than 250 new digital channels in 28 markets.” In 2004, it was estimated that 19 million people listened to online radio at least once a day, up from only 7 million in 2000 (Fonda, 2004).

Recent studies have suggested that radio is a powerful advertising medium when used in conjunction with other media. Because of the hype around multi-channel marketing, radio will most likely maintain its proportion of the advertising pie (Brown, 2005). Clear Channel is attempting to boost its revenue and entice new advertisers by breaking the norms of traditional radio advertising and offering five-second spots, called “adlets,” at about 20% the cost of a 60 second advertisement. They will also offer two-second ads at half the cost of the five-second ads. There is a split between media buyers on whether or not this approach will be successful, but it could be a good opportunity for radio stations looking to attract smaller advertisers (Vranica, 2006).

Television

Television advertising in 2004 made up one-third of measured media expenditures at \$62 billion, capturing the largest share of any media (Veronis et al., 2004). This number reflects audience size data that shows television accounted for nearly 45% of American adults’ daily media consumption in 2005 (Lindsay, 2006). Television allows advertisers to stimulate both the auditory and visual systems of consumers, increasing the impact of their messages. Also, with the large audience that television attracts, the cost per person reached could be less than a penny. However, the disadvantage of this approach is that producing and airing a television commercial can be extremely expensive in terms of absolute costs (Wells et al., 1995).

In 2004, broadcast television advertising spending experienced substantial growth because of unprecedented spending on the presidential election and the Olympics. This excitement was short-lived, however, when in June of 2005 Procter & Gamble announced that it was cutting \$300 million from its television advertising budget. As the world’s largest advertiser, this was a significant announcement for the future of television advertising. Procter & Gamble has been a long-time television advertiser, spending roughly \$2 billion last year in television alone. Media buyers speculated that the company wants to reduce its dependence on television advertising. One New York advertising consultant suggested that, “a big factor accelerating [Procter & Gamble’s advertising] shift now ... is that TV-advertising costs have been rising and confidence in the medium’s ability to reach consumers has been eroding” (Mandese, 2005). With Procter & Gamble making such a drastic change to its advertising spending, market analysts fear others will follow suit.

In August of 2006, the Australian beer company, Foster’s, announced that it will no longer run television advertisements in the U.S., and will focus solely on Internet advertising. While other beer manufacturers are continuing to pour money into television commercials, they are also more aggressively pursuing Internet audiences, indicating that beer companies may continue to move away from television advertising as their primary means of reaching their main demographic of males between the ages of 18 and 34 (Becker, 2006).

At the same time that the Internet is gaining consumer mindshare, digital video recorders, such as TiVo, are finding their way into a growing number of households – yet

another factor eroding the impact of television advertising. Digital video recorders allow consumers to take control of when they watch a program and whether or not they want to sit through the commercials. Given the option, viewers will increasingly choose “time-shift” viewing to by-pass the inconvenience of commercial breaks (Elms, 2004).

Newspaper

Newspaper advertising in 2004 had the second-largest share of advertising spending on measured media at 27% market share, or \$52.2 billion (Veronis et al., 2004). It is an appealing medium because of its extensive market coverage, geographic flexibility, and the positive attitude that consumers generally have toward it. Some of the disadvantages of the medium that advertisers face are its short life span, the amount of clutter, and poor reproduction quality, with the exception of pre-printed material such as inserts (Wells et al., 1995).

The newspaper industry as a whole has been experiencing losses over the past few years. One group that newspapers are worrying about is real estate advertisers. Real estate advertising is an \$11 billion business annually, and newspapers have historically enjoyed a significant portion of real estate advertising. As more consumers turn to online real estate shopping, a number of companies are reducing their newspaper advertising spending and moving it toward online advertising. Some newspapers are fighting back by teaming up to host Web sites such as Apartments.com, where they can entice advertisers to continue advertising in their newspapers by offering the opportunity to advertise online as well (Mullaney, 2006).

Magazine

Magazine advertising accounted for \$24.2 billion, or 13%, of measured media advertising expenditure in 2004 (Veronis et al., 2004). The medium has many advantages, the most rewarding being the ability to convey a message to a very targeted audience. Advertisers take advantage of highly targeted campaigns because there are magazines for every interest. In this medium, advertisers also tend to take advantage of the generally superior print quality (Wells et al., 1995). The limitations of magazine advertising include limited flexibility and the high cost of advertising in magazines with extensive distribution networks.

In one study, two-thirds of the consumers surveyed said that they learned about the Web site in question after first seeing it advertised in a magazine. Advertisers have recognized the power of multi-channel marketing, and have taken advantage of using magazines as a bridge to their Web sites (Kanso & Nelson, 2004).

Outdoor

Outdoor advertising had the smallest portion of measured media advertising spending in 2004 with 3%, or \$5.8 billion (Veronis et al., 2004). It is a medium that can be seen on buildings, buses, or signs on the morning drive to work. It can be very large, very color-

ful, and consequently hard to ignore. It is recognized as the least expensive major media communication tool, and is great for messages that need to be repeated. Disadvantages of the medium include the generally short exposure time and, as a result, the need to make the message brief (Wells et al., 1995).

One of the recent roadside implementations has been digital billboards. At the start of 2007, there were about 400 digital billboards nationwide. These billboards allow for messages to be changed frequently and do not require the printing or set-up and take-down costs that are associated with traditional billboard advertising. Safety experts have expressed concerns about whether or not these billboards have created added distractions to drivers. Some industry analysts predict that there could be as many as 90,000 lining the nation's streets and highways within the next decade (Story, 2007). Again, safety experts and zoning commissions will most likely play a role in slowing this implementation process.

Internet

With \$9.6 billion (5%) of the 2004 measured media advertising expenditure (Veronis et al., 2004), Internet advertising is growing at the highest rate of any medium. Companies can advertise through search engines, banner advertising, and site sponsoring – to name a few of the different approaches. The medium offers many advantages. Perhaps the most important is measurability. Advertising in the medium can be extremely well-targeted to a desired audience as well. One current disadvantage to Internet advertising is that pay-per-click advertisers are paying for falsified click-throughs—something that search engine owners are working to curb.

Until as recently as 2003, there had been an overwhelming impression that there was more Internet advertising space to be distributed than there were advertisers to purchase the space. This tended to make all parties involved feel as though Internet advertising was a buyer's market, keeping web advertising inexpensive for many years. Over the last several years, there has been a shift to a seller's market, where leading Web sites have begun to charge higher premiums to advertise on their sites (Bruner, 2005). Another advantage of Internet advertising is its ability to produce return on investment (ROI) metrics. With an increased ability to measure advertising effectiveness, companies will embrace these technological advances, which will enable behavioral targeting (Veronis, Suhler, & Stevenson, 2005).

In summary, each advertising channel is going through its own changes as advertisers find more or less value in the medium's ability to reach the target audience. They understand that multi-channel communication is an effective tool, but it is difficult to find an exact combination for success. Because of this, advertisers have adjusted their media mixes in an attempt to get the most consumer mindshare for their efforts. The purpose of this research is to quantify these changes.

Methodology

Data Gathering

This study used the “100 Leading National Advertisers” data for 2003 and 2005 published in *Advertising Age* and compiled by TNS Media Services. Once the data were entered into a spreadsheet, North American Industry Classification System (NAICS) codes were added from Hoovers.com for each of the companies on the list.

Accounting for Inflation

Because the financial figures were from different years, we needed to account for the inflation of the U.S. dollar. The inflation percentages were retrieved from the Bureau of Labor Statistics on October 24, 2006. The Advertising Agencies industry was selected from the Producer’s Price Index (PPI). Within this industry, there were sub-categories that matched what the researcher was working with for data. These sub-categories were newspapers, periodicals, television, radio, Internet, and other media placements.

The 2003 annual figures were compared against the 2005 annual figures in order to estimate the percent change due to inflation. To compare the data, the 2003 data were multiplied by the appropriate inflation percentage in order to get comparable figures to 2005.

Data Analysis

There were ten data points for each firm in the spreadsheets:

1. Total U.S. ad spending
2. Estimated unmeasured
3. Measured media
4. Magazine
5. Newspaper
6. Outdoor
7. Television
8. Radio
9. Internet¹
10. Yellow Pages

Total U.S. ad spending was compared with estimated unmeasured and measured media in order to obtain percent-of-whole charts. The data in the seven individual media categories, (Magazine, Newspaper, Outdoor, TV, Radio, Internet, and Yellow Pages) were

1 - The TNS data on Internet spending excluded paid search and broadband video advertising.

used for the majority of the research. The t-Test and the Sign Test were used to find the statistical significance of the data. The following section briefly explains how the unmeasured media compared to the measured media.

Unmeasured Media

Unmeasured media focuses on media such as public relations, trade shows, catalogs and direct mail, B2B promotion products, branded entertainment, custom publishing, and consumer promotion. In 2003, there was \$53.8 billion spent in advertising on measured media among the leading national advertisers, but there was also an estimated \$38.7 billion spent in unmeasured media. Figure 1 compares unmeasured advertising spending to measured advertising spending between 2003 and 2005.

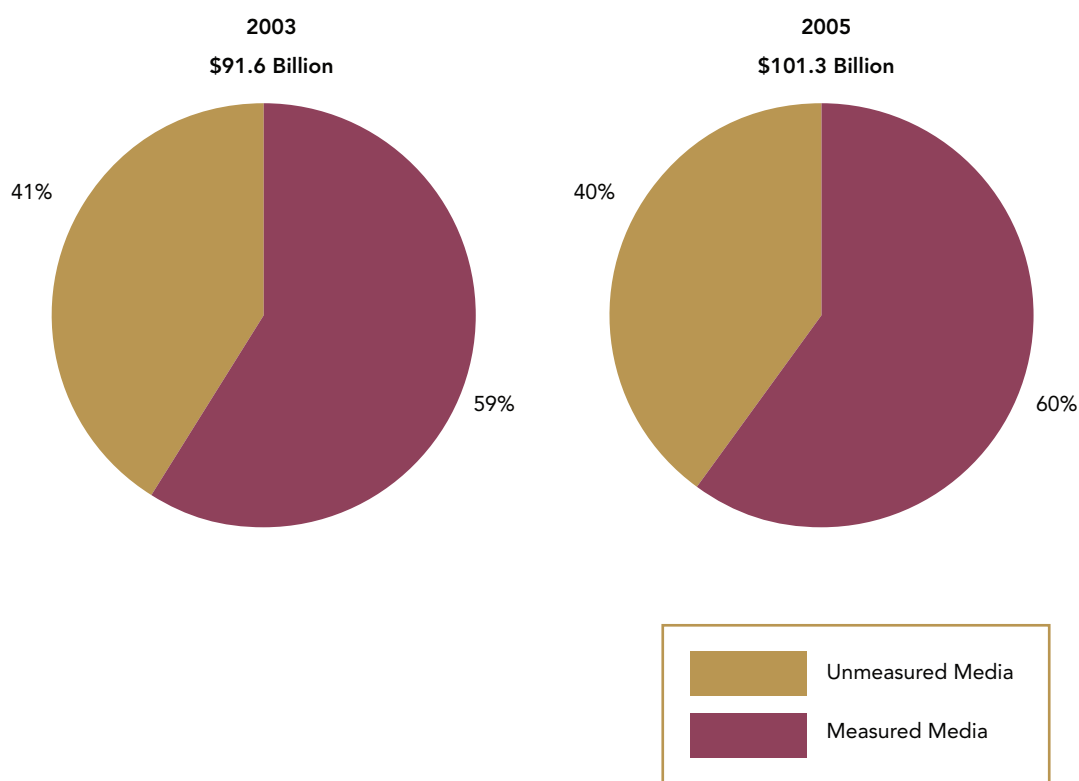


Figure 1. Measured media advertising spending vs. unmeasured media spending

This comparison suggested that, while unmeasured advertising has grown by \$2.3 billion, advertising spending for unmeasured media did not grow as quickly as for measured media, which increased by over \$7 billion in that time period. This contradicted the recent notions that advertising spending on unmeasured media was growing at a faster rate than measured media spending (Cappo, 2003).

While it was important to address this data, the unmeasured media was not the primary focus of the research. The data in the seven individual media categories, (Magazine,

Newspaper, Outdoor, TV, Radio, Internet, and Yellow Pages) were used for the majority of the research. The t-Test and the Sign Test were used to find the statistical significance of the data.

Results

Distribution of Advertising Spending by Medium

Were there significant changes to the distribution of advertising spending by medium between 2003 and 2005?

Overall spending from 2003 to 2005 grew \$7.4 billion. Figure 2 shows the total measured advertising spending by media for the 100 leading national advertisers.

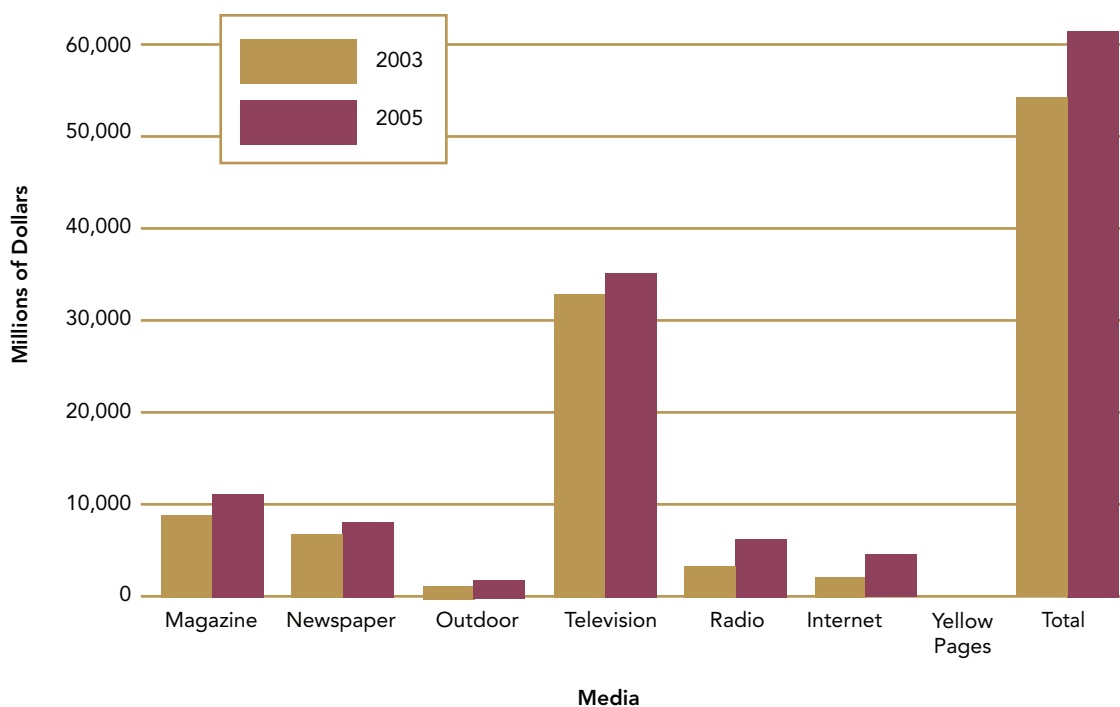


Figure 2. Total measured advertising spending by media for 100 leading national advertisers*

* 2003 data has been adjusted to account for inflation

There was growth in all media types with the exception of Yellow Pages advertising. Yellow Pages advertising dropped by over \$50 million, accounting for a 30% reduction in spending for the medium. The change in the percent contribution of each medium to the total advertising expenditures for 2003 and 2005 is shown in Figure 3.

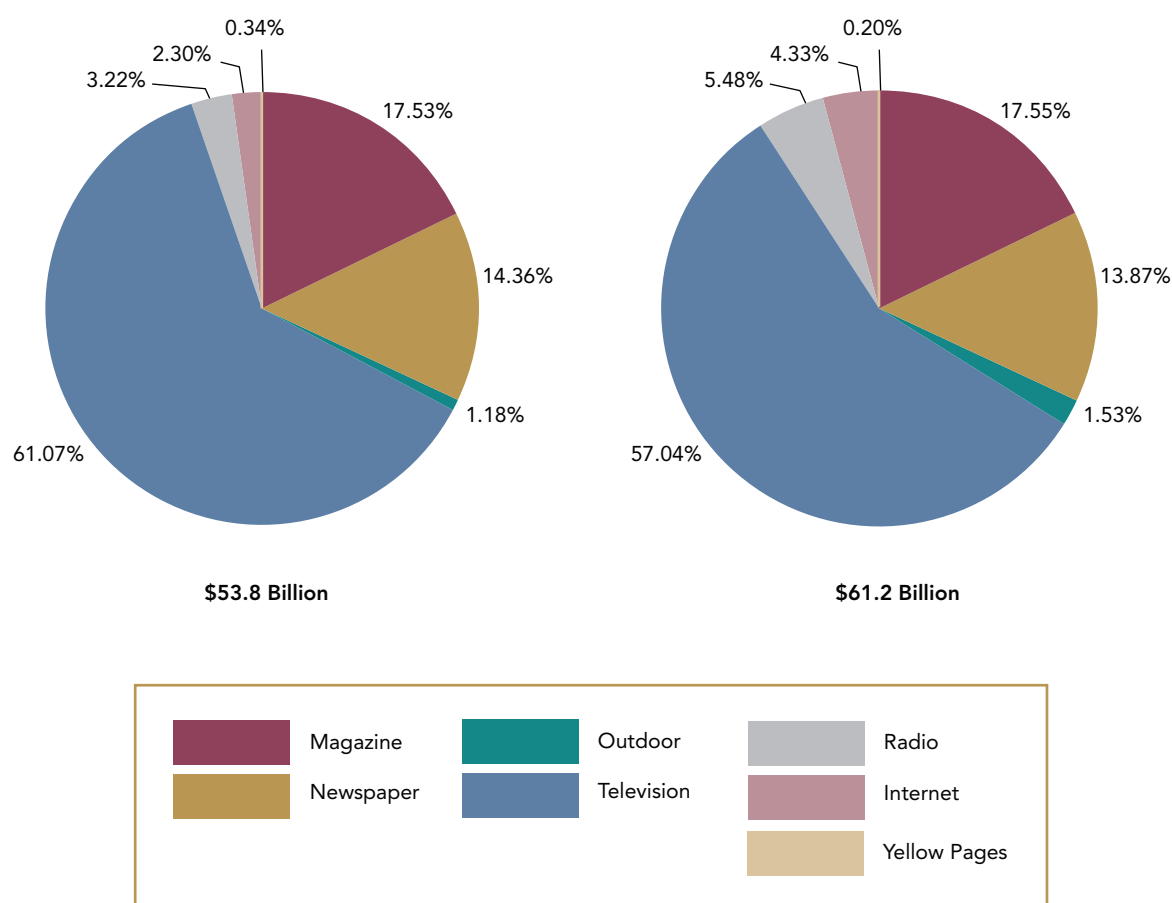


Figure 3. Distribution of spending on measured media

The relative proportion in Figure 3 reveals that there was a 4% decrease in television advertising's contribution to the total measured advertising spending. The relative proportion increased by more than 2% for both radio and Internet. Newspaper advertising's percentage dropped less than 0.5%, while outdoor advertising's percentage increased by less than 0.5%.

Between 2003 and 2005 there were some mergers, acquisitions, blunders, financial constraints, strategic redirections, and other circumstances that altered which companies appeared on the 100 Leading National Advertisers list for 2005. In order to create comparability, only the firms that appeared on both lists in their exact form were used, leaving 81 companies in the sample. Matched pair t-Tests were used to see if these changes in advertising were statistically significant. As Table 2 shows, there is a statistically significant increase in spending for radio and Internet advertising only.

Table 2. Determining statistical significance (n=81)

| Media | Mean (in millions) | | % Change in Mean | P (T<=t) two-tail | Statistically Significant |
|--------------|--------------------|----------|------------------|-------------------|---------------------------|
| | 2003 | 2004 | | | |
| Magazine | \$109.25 | \$123.44 | 12.99% | 0.480 | No |
| Newspaper | 66.13 | 84.82 | 28.26% | 0.347 | No |
| Outdoor | 6.98 | 9.34 | 33.86% | 0.252 | No |
| Television | 367.29 | 388.15 | 5.68% | 0.692 | No |
| Radio | 15.36 | 34.66 | 125.59% | 0.001 | Yes |
| Internet | 13.59 | 24.30 | 78.77% | 0.016 | Yes |
| Yellow Pages | 1.96 | 0.85 | -56.53% | 0.144 | No |

Because only nine companies from each of the two lists nationally advertised in the Yellow Pages, the sign test was used to further analyze this medium. The test was statistically significant ($p \leq 0.05$), revealing only one leading national advertiser that increased its Yellow Pages advertising.

Differences in Media Mix by Industry

Are there differences in media mix by industry of the advertiser?

There was variation among the industries in their media mixes. Table 3 shows the breakdown of the representation of some of the industries and the average change in expenditures that each industry accounted for per medium. Unlike the analysis that was performed in the first section, these sample sizes are too small to use significance tests. A descriptive analysis was used to ascertain the changes that have occurred among leading industries. Table 3 presents those differences.

Table 3. Change in media expenditures 2003-2005

| Industry (n) | Average Total Change | Magazine | Newspaper | Outdoor | TV | Radio | Internet | Yellow Pages |
|------------------------|----------------------------|----------|-----------|----------|---------|--------|----------|-----------------|
| Automotive (9) | \$129 M | \$12 M | \$28 M | \$3 M | \$37 M | \$14 M | \$12 M | -\$5 M |
| Pharmaceutical (8) | \$77 M | \$8 M | \$8 M | \$0.3 M | \$39 M | \$1 M | \$7 M | \$0 M |
| Fast Food (5) | \$133 M | \$12 M | \$1 M | \$2 M | \$0.2 M | \$26 M | \$3 M | -\$0.4 M |
| Department Store (5) | \$154 M | \$13 M | \$91 M | \$0.6 M | \$16 M | \$18 M | \$4 M | -\$3 M |
| Household Cleaners (4) | \$204 M | \$32 M | \$55 M | \$0.3 M | \$80 M | \$5 M | \$6 M | \$0 M |
| Soft Drink (3) | \$165 M | \$38 M | \$12 M | \$9 M | \$58 M | \$36 M | -\$2 M | \$0 M |
| Motion Picture (2) | \$159 M | \$9 M | -\$19 M | \$17 M | \$7 M | \$73 M | \$36 M | \$0 M |
| Credit Cards (2) | \$23 M | \$8 M | \$7 M | \$0.4 M | -\$9 M | \$13 M | -\$5 M | \$0 M |
| Computer (2) | \$153 M | -\$33 M | \$38 M | -\$1 M | \$45 M | \$6 M | \$86 M | \$0 M |
| Cereal (2) | \$31 M | \$4 M | \$37 M | -\$0.5 M | -\$37 M | \$1 M | \$11 M | \$0 M |

In the industries with smaller sample sizes, there are eight instances where advertisers reduced their spending in media other than Yellow Pages from 2003 to 2005. In the same time period, there were only three instances of a reduction in spending for the highly-represented companies, and those were all in Yellow Pages advertising. While computer manufacturers reduced their magazine advertising spending by an average of \$33 million, soft drink manufacturers increased their magazine advertising spending by an average of \$38 million. A similar situation to this is where cereal manufacturers reduced their television spending by an average of \$37 million, but the average change in expenditure for advertisers in the automotive industry was an increase of \$37 million. Also, note that the pharmaceutical and household cleaners industries were the only ones to show no decline in advertising for any of the measured media. This table alone shows that there are, in fact, differences in media mix depending on the industry of the advertiser.

Internet Advertising Growth

Has Internet advertising grown at the expense of other media?

Figure 4 shows the percent that each media contributed to the \$7.5 billion growth in advertising among leading national advertisers from 2003 and 2005. (Yellow Pages advertising decreased, so it is not included.) Internet advertising expenditure contributed to 19% of that growth, the third largest contributor.

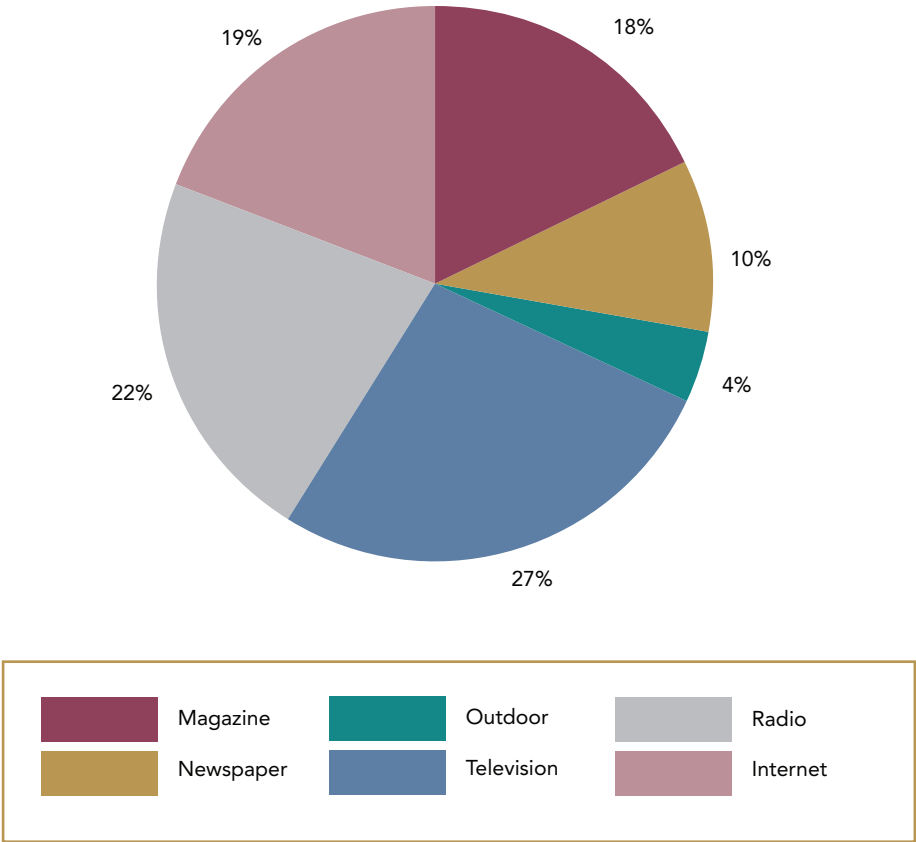


Figure 4. Percent contribution to growth between 2003 and 2005

Though Internet advertising is growing at a statistically significant rate, this chart indicates that spending on magazine, newspaper, outdoor, television, and radio advertising have also increased. Note that measured Internet advertising spending excludes paid search advertising – a very profitable area for some Web sites.

Discussion

Comparing the absolute changes in media expenditures between 2003 and 2005, the distribution of advertising spending has not changed dramatically. The top advertisers increased spending in all media with the exception of Yellow Pages. While we expected to see a growth in Internet advertising, the statistically significant growth in radio advertising came as a surprise. This growth may have been related to significant investment in radio on the part of the HD alliance and other industry proponents, but it may also have been due to the fact that radio is a compliment to a well-rounded advertising campaign. The two industries that showed the most growth in radio advertising were soft drink manufacturers and fast food companies. It could be that these two industries have started to target impulse buyers while driving to or from work, or that some companies may have been mimicking the advertising trends of their competitors. Regardless, radio will be a medium to watch in future years to determine whether or not advertising spending in the medium continues to grow.

When changes were analyzed by industry of the advertiser, we saw different media expenditure patterns. In the case of cereal manufacturers, national newspaper advertising spending increased from just over \$1 million to more than \$74 million. This was the most dramatic change among the industries that were reviewed in this study. It is a segment to watch to see how these companies will change their advertising mix in future years – newspaper advertising in particular. What this research showed was that all industries are going through changes to their media mixes, but that each is taking a different approach to how they will move forward.

Internet advertising among leading national advertisers is growing at a statistically significant rate. What is harder to determine is whether or not the growth in Internet advertising is coming at the expense of other media. Yellow Pages is the one medium that could be incurring losses from increases in Internet advertising. As consumers progressively continue to turn to the Internet, the trend is to perform a quick Internet search for local and national businesses rather than to look in their printed Yellow Pages book. Because of this, advertisers may be taking money that would otherwise be allocated for Yellow Pages advertising and putting it into their Internet advertising budget. In depth analysis of advertising spending, as tracked by TNS Media Intelligence, is limited because paid search advertising and broadband video spending are not included in the “measured” category of Internet advertising spending. If paid search advertising was included in the measured media portion of the data, this field would be substantially larger.

One could also argue that the 4% drop in television advertising's proportion of the total advertising dollars spent from 2003 to 2005 lends support to this conclusion. Advertisers are gaining a better understanding of the power of Internet advertising and the broad reach that it has. Moreover, the measurability of Internet advertising is unsurpassed as opposed to traditional advertising channels, making it that much more enticing to focus advertising dollars in that arena.

One individual case that may further support the notion that Internet advertising is growing at the expense of other media is the recent activity of GM's advertising spending. In a recent article from *Advertising Age* (February 12, 2007), a table showed the change in advertising spending for General Motors when comparing January and November of 2005 to the same periods in 2006. GM has reduced its national advertising in all mainstream media by more than \$600 million when compared to the same time period in 2005. Only one media channel in this list grew, and that was Internet advertising. With the second-largest advertiser making a statement such as this about its media mix, it may further support the notion that Internet advertising is, in fact, increasing at the expense of other media.

This study was intended to be the basis for future research. Because of this research, future analysis of how these leading national advertisers continue to change their media mixes will be made easier and have increased meaning.

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